COATING COMPOSITIONS COMPRISING SILYL BLOCKED COMPONENTS, COATINGS, COATED SUBSTRATES AND METHODS RELATED THERETO

ABSTRACT

Coating compositions formed from at least one hydroxyl functional non-vinyl material comprising at least one alcoholic hydroxyl group blocked with a hydrolyzable silyl group, and at least one curing agent are provided by the present invention. Another embodiment of the present invention is directed to a coating composition formed from components comprising at least one carbamate functional material comprising at least one carbamate group blocked with a hydrolyzable silyl group, and at least one curing agent. Another embodiment of the present invention is directed to a coating composition formed from components comprising at least one carboxyl functional material comprising at least one carboxyl group blocked with a hydrolyzable silyl group, and at least one curing agent. Another embodiment of the present invention is directed to a coating composition formed from components comprising at least one amide functional material comprising at least one amide blocked with a hydrolyzable silyl group, and at least one curing agent. Other embodiments of the present invention are directed to substrates coated with the aforementioned cured compositions. Also provided are multi-component composite coatings which include a cured basecoat deposited from a pigmented coating composition and a cured topcoat deposited from a topcoating composition. The multi-component composite coatings of the invention provide highly scratch resistant color-plus-clearcoatings. Further embodiments of the present invention are directed to methods for improving scratch resistance of a substrate.